

SHIP MAR 22



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

001473

**D117-762-011**  
**Job Sheet 172859**



Part No: D117-762-011

Job Qty: 1 ea

Part Name: Skidtube with Standard Wearplates Fits LH or RH



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 2/22/18

Job Tracking No:

Due Date: 3/22/18

Created By: Logan David

Type: SOLD

Description:

**Note:** DWG DSI9771 REV A, IIN-D117-762 REV E IPP Rev:A 07.06.11 New Issue EC IPP Rev:B 08-02-22 change to revA DD verified by:ec IPP Rev C 08.12.19 incorporated DSI9435 EC verified by:DD IPP REV:D 13.11.14 IIN REV.C DD VERF:JLM IPP REV:E 15.06.11 IIN REV.D DD VERF:JLM IPP REV:F 17.01.17 PER CHG004 (dsi9771) DD VERF:JLM

Ship Via:

## Bill of Materials

## Job Routing

| Op No | Operation          | Qty   | Start Date | Due Date | Standard  |         | Workcenter/Supplier   |           | Sign-off    |
|-------|--------------------|-------|------------|----------|-----------|---------|-----------------------|-----------|-------------|
|       |                    |       |            |          | Setup hrs | Run Hrs | Workcenter / Supplier | Lead Time |             |
| 90    | Start up Operation | 1 Ea  | 3/21/18    | 0.00     | 0.00      |         | Start Up Stores/Pkg-1 |           | MAR 20 2018 |
| 110   | Packaging          | 1 pcs | 3/21/18    | 0.00     | 0.00      |         | Packaging1-1          |           | MAR 21 2018 |
| 120   | QC                 | 1 pcs | 3/21/18    | 0.00     | 0.00      |         | QC4                   |           |             |
| 125   | DC                 | 1 pcs | 3/22/18    | 0.00     | 1.52      |         | DC                    |           |             |
| 130   | Packaging          | 1 pcs | 3/22/18    | 0.00     | 0.00      |         | Packaging3-1          |           |             |
| 140   | QC21-FG            | 1 Ea  | 3/22/18    | 0.00     | 0.00      |         | QC21                  |           | MAR 21 2018 |

Part Op 125 - Photocopy bluefile & type labels per PPP D117-762-011 CHG003  
Descriptions: 130 - Identify and pack for shipping as per PPP D117-762-011 Location :FG081

9-89 10 DAS 21 9-89 21 9-89

## Job BOM

| Part / Item  | Component Name       | Quantity    | Operation             | Container |
|--------------|----------------------|-------------|-----------------------|-----------|
| AN6C52A      | Bolt                 | 2 Ea (2 ea) | 90-Start up Operation | 5052958   |
| D117-762-041 | Replacement Skidtube | 1 Ea (1 ea) | 90-Start up Operation | 5049604   |
| D3512-041    | Wearplate            | 2 Ea (2 ea) | 90-Start up Operation | 5045261   |
| D5300-1      | GHL Bushing          | 2 Ea (2 ea) | 90-Start up Operation | 5047784   |
| D5301-1      | GHL Plug             | 2 Ea (2 ea) | 90-Start up Operation | 5009287   |
| MS21043-6    | Nut                  | 2 Ea (2 ea) | 90-Start up Operation | 5041601   |

## Job Allocations

| Operation             | Component Part | Required | Inventory | Allocated |
|-----------------------|----------------|----------|-----------|-----------|
| 90-Start up Operation | → AN6C52A      | 2        | 6         | 0         |
|                       | D117-762-041   | 1        | 6         | 0         |
|                       | D3512-041      | 2        | 0         | 0         |
|                       | D5300-1        | 2        | 2         | 0         |
|                       | D5301-1        | 2        | 9         | 0         |
|                       | MS21043-6      | 2        | 119       | 0         |

5049604x1



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
CANADA  
TEL.: 1 813 632-5200  
Email: sales@dartaero.com  
www.dartaerospace.com

**Container No: S052993**



**Part: D117-762-011**

**Job No: 172859**

**Serial No/Batch: S052993**

**Revision: A / E**

**Inspector:**

Date: 03/20/18

117  
762  
011  
S052993  
A / E  
172859

304

2  
1  
3

| Part Specifications                |
|------------------------------------|
| Specifications could not be found. |

Plex 2/22/18 9:19 AM dart.logan.david



Dart Aerospace Ltd.  
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Canada

Tel (613) 632-5200

## Container View (Active) - Master Unit Containers

| Master Unit No | Container No | Part No   | Part Name   | From Container | Current Location | Quantity |
|----------------|--------------|-----------|-------------|----------------|------------------|----------|
| 001473         | S048640      | D5300-1   | GHL Bushing | s047784        | ST162            | 2        |
| 001473         | S048639      | D5301-1   | GHL Plug    | s009287        | ST162            | 2        |
| 001473         | S048638      | MS21043-6 | Nut         | s041601        | FP001            | 2        |

Note: Ad hoc query view of Part.dbo.Container where Container.Active = 1.

D3512-041 x2 5045261.

Plex 3/7/18 8:37 AM Dart.joly.jocelyne

ANGCS2A x2



# DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D117-762 REV. E AND  
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D117-762 REV. 4

REF FAA STC: SR01853SE

REF: TC LETTER OF ACCEPTANCE RDIMS-4374899

REF EASA STC: EASA.10017063

## 1.0 PURPOSE

The purpose of this Dart Service Instruction (DSI) is to replace the ground handling lugs (D3864-1 Bushings, AN6C51A Bolts and MS21043-6 Nuts) on the D117-762-XXX Skidtubes with a structurally superior lug design (D5300-1 Bushings, D5301-1 Plugs, AN6C52A Bolts, MS21043-6 Nuts) as shown in Figure 1. The new hardware will be included in D117-762-011 @ CHG 004 and subsequent.

## 2.0 INSTALLATION

For D117-762-011 @ CHG 004 and subsequent, the ground handling hardware should be installed as follows:

- 2.1 Loosely install (qty 2) D5300-1 GHL Bushing & (qty 2) D5301-1 GHL Plug wet with Proseal 890 or MIL-S-8802 Class B2 Sealant in location shown in Figure 1.
- 2.2 Install (qty 2) AN6C52A Bolts and (qty 2) MS21043-6 Nuts in accordance with Figure 1. Clean up squeezed out Proseal and apply fillet seal around D5300-1 & D5301-1.
- 2.3 Torque AN6C52A Bolts 160 - 190 in-lbs (18.1 - 21.5 N-m).

## 3.0 PARTS LIST

For D117-762-011 @ CHG 004 and subsequent, the Part List in IIN-D117-762 and ICA-D117-762 is modified as follows:

**IS**

| ITEM | QTY<br>-011 | PART NUMBER  | DESCRIPTION           |
|------|-------------|--------------|-----------------------|
|      | X           | D117-762-011 | SKIDTUBE INSTALLATION |
| 50   | 2           | AN6C52A      | BOLT                  |
| 51A  | 2           | D5300-1      | GHL BUSHING           |
| 51B  | 2           | D5301-1      | GHL PLUG              |
| 52   | 2           | MS21043-6    | NUT                   |

|            |             |                                                                                                                                                                                                                                                                               |              |
|------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| A          | NEW ISSUE   | RF                                                                                                                                                                                                                                                                            | 17.01.09     |
| REV.       | DESCRIPTION | BY                                                                                                                                                                                                                                                                            | DATE         |
| DESIGN     | RF          | <b>DART AEROSPACE, LTD</b><br>EUGENE, OR                                                                                                                                                                                                                                      |              |
| DRAWN      | RF          |                                                                                                                                                                                                                                                                               |              |
| CHECKED    | WK          | DRAWING NO.                                                                                                                                                                                                                                                                   | REV.A        |
| MFG. APPR. | N/A         | DSI 9771                                                                                                                                                                                                                                                                      | SHEET 1 OF 2 |
| APPROVED   | HS          | TITLE                                                                                                                                                                                                                                                                         | SCALE        |
| DE APPR.   |             | GHL UPGRADE KIT                                                                                                                                                                                                                                                               | NTS          |
| DATE       | 17.01.09    | COPYRIGHT ©2017 BY DART AEROSPACE USA, INC<br>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE, LTD. |              |

## 5.0 PARTS LIST

## 5.1 D117-762-011 Skidtube Parts List

| Item | Qty<br>-011 | Qty<br>-041 | Part Number         | Description              |
|------|-------------|-------------|---------------------|--------------------------|
|      | X           |             | D117-762-011        | SKIDTUBE INSTALLATION    |
|      | 1           | X           | D117-762-041        | REPLACEMENT SKIDTUBE     |
| 1    |             | 1           | D3582-041           | SKIDTUBE ASSEMBLY        |
| 2    | 2           |             | **1121-51002        | SKID SHOE                |
| 3    | 2           |             | **1121-51102        | CLAMPING RING            |
| 4    | 8           |             | **LN9380M8X45       | HEXAGON BOLT             |
| 5    | 8           |             | **LN9023A8-1.4544.9 | LOCKING WASHER           |
| 6    | 8           |             | **LN9025-0815K      | WASHER (OR LN9025-0815L) |
| 10   |             | 1           | *D2965              | CAP                      |
| 11   |             | 2           | ***AELS-1032-225    | INSERT                   |
| 12   |             | 2           | *AN3C5A             | BOLT                     |
| 13   |             | 2           | *NAS1149C0332R      | WASHER (OR AN960C10L)    |
| 20A  |             | 1           | *D3508-9            | WEARPLATE                |
| 20B  |             | 1           | *D3558-9            | GASKET                   |
| 21A  |             | 1           | *D3508-3            | WEARPLATE                |
| 21B  |             | 1           | *D3558-3            | GASKET                   |
| 22A  |             | 1           | *D3508-11           | WEARPLATE                |
| 22B  |             | 1           | *D3558-11           | GASKET                   |
| 23A  |             | 1           | *D3508-13           | WEARPLATE                |
| 23B  |             | 1           | *D3558-13           | GASKET                   |
| 24   |             | 36          | *AELS-1032-130      | INSERT                   |
| 25   | 8           | 28          | *AN3C4A             | BOLT                     |
| 26   | 8           | 28          | *NAS1149C0332R      | WASHER (OR AN960C10L)    |
| 27   | 2           |             | D3512-041           | WEARPLATE                |
| 30   |             | 2           | *AELS-1032-130      | INSERT                   |
| 31   |             | 2           | *AN3C4A             | BOLT                     |
| 32   |             | 2           | *NAS1149C0332R      | WASHER (OR AN960C10L)    |
| 50   | 2           |             | AN6C51A             | BOLT                     |
| 51   | 4           |             | D3864-1             | BUSHING                  |
| 52   | 2           |             | MS21043-6           | NUT                      |

\* PART IS INCLUDED WITH D3582-041 SKIDTUBE ASSEMBLY

\*\* TO BE SUPPLIED BY CUSTOMER, LISTED AS REFERENCE ONLY

\*\*\* DENOTES PART IS INCLUDED WITH ASSEMBLY ABOVE

## Change Record

PAGE 1 OF 1

Part Number: D117-762-011

Description: SKIDTUBE

[illegible]



DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                      | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Step #:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | MRB (QSI042) Approval                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Completed By                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Lead hand / Supervisor Approval Verification                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | QC / QA Coordinator Approval                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| Root Cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | FAULT CATEGORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Environment <input type="checkbox"/><br>Design <input type="checkbox"/><br>Doc/Data <input type="checkbox"/><br>Equip/Tooling <input type="checkbox"/><br>Handling/Pre <input type="checkbox"/><br>Material <input type="checkbox"/><br>Internal Transport <input type="checkbox"/><br>Tribal Knowledge <input type="checkbox"/><br>LOA <input type="checkbox"/><br>Substation <input type="checkbox"/><br>Past Expiry Date <input type="checkbox"/><br>Misidentified <input type="checkbox"/> | No Re-verification <input type="checkbox"/><br>Operator <input type="checkbox"/><br>Offset/Setup <input type="checkbox"/><br>Supplier <input type="checkbox"/><br>Training <input type="checkbox"/><br>Use for Testing <input type="checkbox"/><br>Poor Information <input type="checkbox"/><br>Rushing <input type="checkbox"/><br>Product Improvement <input type="checkbox"/><br>Process Improvement <input type="checkbox"/><br>Manufacturing Process <input type="checkbox"/><br>Past Due <input type="checkbox"/> | Pressure/Forced <input type="checkbox"/><br>Bending <input type="checkbox"/><br>Centre Not Concentric <input type="checkbox"/><br>Cracks <input type="checkbox"/><br>Crimp/Kink/Ripple/Wave <input type="checkbox"/><br>Cuffs <input type="checkbox"/><br>Crushing <input type="checkbox"/><br>Heat Treat <input type="checkbox"/><br>Wave/Twist in Tube <input type="checkbox"/><br>Marks/Chatter <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Temperature/Cure <input type="checkbox"/><br>Set-up <input type="checkbox"/><br>BOM/Route <input type="checkbox"/><br>Broken/Damage/Defect <input type="checkbox"/><br>Inspection Incomplete/Unqualified <input type="checkbox"/><br>Contamination <input type="checkbox"/><br>Countersink <input type="checkbox"/><br>Cut Too Short <input type="checkbox"/><br>Instructions Incomplete/Unclear <input type="checkbox"/><br>Drill Holes <input type="checkbox"/> | Power Loss/Surge <input type="checkbox"/><br>Folio/Program <input type="checkbox"/><br>Grain <input type="checkbox"/><br>Weld <input type="checkbox"/><br>Wrong Stock Pulled <input type="checkbox"/><br>Out of Sequence <input type="checkbox"/><br>Off-set <input type="checkbox"/><br>Mislabeled <input type="checkbox"/><br>Fit/Function <input type="checkbox"/><br>Misaligned/off center <input type="checkbox"/> | Positioned Wrong <input type="checkbox"/><br>Outside Dimensions <input type="checkbox"/><br>Over/Under tolerance <input type="checkbox"/><br>Part Incorrect <input type="checkbox"/><br>Part Lost/Missing <input type="checkbox"/><br>Part Moved <input type="checkbox"/><br>Drawing <input type="checkbox"/><br>Finish <input type="checkbox"/><br>Misread <input type="checkbox"/><br>Turning Sequence <input type="checkbox"/> |
| OTHER : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |